throughout could be made much tighter. The author contends that such an approach would tend to overshadow the real purpose of the text. This is an extremely sensible observation and the verbose coding presented allows the reader to grasp the fundamentals much more easily. Subjects include three-dimensional representations in two dimensions, matrix transformations, three-dimensional coordinate systems, orthographic projections, stereoscopic projections and several interesting hidden line and hidden surface algorithms.

The book has appeal to anyone interested in computer graphics. For those with a comfortable mathematics background and a desire to learn the details of sophisticated graphics display algorithms, the book provides a wealth of information. In contrast, those who are more interested in creating graphics displays without the accompanying theory, can mix and match the example modules into their own custom programs. The author provides good descriptions of the BASIC graphics commands, but a good working knowledge of BASIC would be a great advantage to the prospective reader.

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Technical, Technological and Social Implications of Bioengineering (Implicaţii tehnice, ţehnologice şi sociale ale bioingineriei). By E. Niculescu-Mizil. Editura Stiinţifică şi enciclopedică, Bucureşti (1982) 240 pp. 13 lei.

In our days, biology and its applications has obtained a special importance and interest. Much more, the forecast in this domain of science points to a stronger and more revolutionary development for the time being. These facts are due to numerous discoveries of scientific and practical value in the field of biology in the last 20 y. In these circumstances, the biological research must have proper attention in the future. For instance, in Romania, the programmes of scientific research of technological development and of technical progress for the last two decades of the twentieth century, there are foreseen special measures for the biological research. This book is, and would be directed towards the deepening of knowledge of fundamental biological mechanism and the development on this foundation of applications in agriculture, industry, medicine and environmental protection. Research is developed in the field of cellular and molecular biology, biochemistry, of biophysics, bioengineering, genetics and ecology.

The biological research must be directed not only towards the cognition of life and nature mysteries but also towards taking advantage of results of knowledge in the view of the transformation of nature for the human benefit.

Thus, one of the peculiarities of the development of biological research in Romania is its orientation towards obtaining new kinds of plants of high productivity, with better nourishing qualities, as well as towards the improvement of animals breed.

However, the deepening of knowledge about the fundamental biological mechanisms required by the application of biology in practice is unconceivable without the deep cognition of the nature of living matter. This means that the scientific cognition of the discussed about domain is refered to as this last problem, while the applied biological researches involve close relations between biology and the most different methods and techniques as those of industrial biotechnology, genetic engineering, medical technologies etc. This means that biology will be able to answer succesfully to the great charges of social economic development which are standing before it not only by the organic blending with different domains of modern techniques.

Till now the relationships of biology with different domains of techniques were generally presented with each domain separate from the other ones.

The work *Technical, Technological and Social Implications of Bioengineering* tries and succeeds in doing a synthetic and unitary presentation of these problems, joining all in a single and complex

frame. In the book, the bioengineering is conceived in a systemic manner not as an isolated domain which aims either at genetic engineering, industrial biotechnologies or the domain of medical apparatus (the therapeutical or organ replacing ones) presented one independently of others, but at a generous complex science having a large area of containement which refers to biology itself also to the prebiotic forms of matter, biotechnologies, genetic engineering, bionics, and also to the biomaterials, biopharmacology, also to artificial intelligence etc., as well as to the interferences and connections between all those domains. Therefore, the author's viewpoint about bioengineering is an integratory one. The scientifical and modern feature of the discussed book is provided also by the presentation of cybernetic and informatic methods and techniques described in relation with their utilization for bioengineering.

The book offers a series of estimations and examples about bioengineering research both in Romania and in other countries, in an objective and "up-to-date" manner.

Two principal ideas permeate the book as two guiding themes. The first one: the new achievements of science with progress results in the human social practice arises from the man's natural desire to step always forward towards a better and brighter future. The second one: according to the human multimillenary experience, never must be believed that about a certain phenomenon of nature or about a certain field there is said the last word about it. Nature is infinite, as infinite are also the possibilities of cognition of this nature, while the human knowledge must always grow richer! That is devolved from Professor E. Niculescu-Mizil's work.

The work *Technical, Technological and Social Implications of Bioengineering* addresses itself to a large circle of readers, to the specialists in the field of biology, biotechnology, genetics, medicine, biomedical technologies, etc, and to all persons who desire to be up to date with the news from science, technics and technology.

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